DOCUMENT RESUME

ED 235 133 SP 023 035

AUTHOR Dillon, J. T.
TITLE Teaching and the Art of Questioning. Fastback 194.
INSTITUTION Phi Delta Kappa Educational Foundation, Bloomington, Ind.
SPONS AGENCY Phi Delta Kappa, Dallas, TX. North-Metro Chapter.
REPORT NO ISBN-0-87367-194-5
PUB DATE 83
NOTE 43p.
AVAILABLE FROM Phi Delta Kappa, Eighth and Union, Box 789, Bloomington, IN 47402 ($0.75).
PUB TYPE Viewpoints (120) -- Reports - Evaluative/Feasibility (142)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Classroom Communication; *Classroom Techniques; Discourse Analysis; *Discovery Learning; *Discussion (Teaching Technique); Elementary Secondary Education; Information Seeking; Inquiry; *Questioning Techniques; Student Reaction; Teacher Role

ABSTRACT

The first chapter in this booklet about teaching and the art of questioning defines educative questions which advance pedagogical purposes, classroom processes, and educational ends and facilitate student thinking and class participation. Examples throughout the publication are in the form of recorded and transcribed actual classroom discourse, with identification of the nature of questions posed and the type of student response given, and an analysis of negative effects of questions. In the second and third chapters, a review is presented of two broad categories of classroom conversation--recitation and discussion. The characteristics of each category are highlighted by excerpts from classroom discussions, and it is pointed out how questions function within the framework of the discourse. Alternative approaches that may enhance the goals of recitation are proposed: preparation, review, quiz, and evaluation. In the final chapter, seven alternatives for stimulating student thought and response, for encouraging participation, and for teaching appropriate discussion behavior are presented. The use of the declarative statement, the reflective statement, expressing confusion, inviting elaboration, aiding students to formulate a question, encouraging inquiry, and promoting student-student interaction, and the deliberate use of silence by the teacher are discussed. (JD)

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# Teaching and the Art of Questioning

J. T. Dillon

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**J. T. DILLON**

J. T. Dillon is perplexed by things and often wonders what the question is. He has pursued the question through more than 20 years of teaching and some 80 publications. He also writes a newsletter, *Questioning Exchange*, for teachers and researchers in various fields who are interested in the topic of questioning.

After receiving a B.A. in history, Dillon went on to teach English, French, Latin, religion, and music. Following an M.A. and Ph.D. in education at the University of Chicago, his native city, he treated himself to an M.A. in history and went on to teach graduate courses in psychology and, currently, curriculum at the University of California at Riverside.

Dillon has published *Catechetics Reconsidered* (1968), *Personal Teaching* (1971), and *Resurgence of Religious Instruction* (1977), and he is now composing a book on Jesus as a teacher. His current research bears on the function of questions in various styles of classroom discussion, and on the modes of inquiry in the disciplines of study.

Series Editor, Derek L. Burleson

# Teaching and the Art of Questioning

by
J. T. Dillon

Library of Congress Catalog Card Number 83-61781
ISBN 0-87367-194-5
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Bloomington, Indiana

This fastback is sponsored by the Dallas North-Metro Chapter of Phi Delta Kappa, which made a generous contribution toward publication costs.

In sponsoring this fastback, the chapter wishes to honor its charter members, who under the direction of the first chapter president, Dr. William L. McKinney, have built an organization committed to educational excellence.

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# Questions in Education

Everybody knows how to ask and answer questions. From infancy until we started school, people talked to us in questions half of the time, then most of the time all through our schooling. As adults we ask and answer questions while speaking with children and strangers, with doctors, lawyers, and Indian chiefs of every kind. And as teachers we may find ourselves asking questions at every turn, perhaps every minute.

There is this one difference. Just like people, questions can be divided into two basic kinds – those that can be divided into two basic kinds, and those that can't! For our purposes there are only everyday questions and educative questions. We shall focus on educative questions; everyday questions are all the rest.

## Educative Questions

Educative questions advance pedagogical purposes, classroom processes and educational ends. For example, they facilitate student thinking and enhance class participation. The difference between educative questions and everyday questions is not always apparent. The difference lies in the *greatness of care* it takes to make a question an educative one. It takes nothing at all to ask an everyday question; the question naturally occurs to our mind and delivers readily from our mouth.

It takes great care to prepare an educative question. The question does not occur to our mind, we must find it. It does not take on a shape, we must give it form. It does not deliver itself, we must present it. We prepare a question to be educative. We conceive it, formulate it, and

pose it. *To conceive an educative question requires thought; to formulate it requires labor; and to pose it, tact.* None of this is mysterious, and all of it is within our reach.

## Approaches to Questioning

We will take broad approaches in favor of broad understandings rather than examine the detailed skills of questioning. Any of us can work out the details. Indeed, details should not be spelled out here but worked out *there*, so as to suit the particulars of pedagogical purpose and classroom circumstance.

All of the illustrations are taken from actual classroom discourse recorded and transcribed by the author. Some of them contradict the approaches recommended in the text, but they were selected as examples of how questions typically function in classrooms. None of the examples was selected with the intention of criticizing some poor teacher; on the contrary, all of them are selected from good teachers. We mean to show only that questions might be used more fruitfully than they normally are.

Although our approach emphasizes questions in teaching, the result will be to ask *fewer* questions than are currently being asked in classrooms. It is easy to ask questions, but it is hard *not* to ask them. We stress the *nature* of questions rather than their frequency and pace, and the type of student *response* rather than the type of teacher question. We identify some negative effects of questions and suggest some *alternatives* to questions. We focus on the question-answer *pair* as an approach to knowledge rather than the answer. We emphasize *perplexity* questions as a supplement to known-answer questions, and *student* questions as a complement to teacher questions.

Our approach to questions may seem novel, even strange, full of unexpected twists and reversals of emphasis. Yet that is how it works out, given the nature and function of questions in classroom discourse and their effects on student thinking, learning, and participation. Readers interested in a formal presentation of the theory of questions and an analytic review of research on questions may consult Dillon, 1978, 1982a, or 1982b in the bibliography. For further details on tech-

niques of questioning see Dillon, 1979 or 1981b, and other sources listed in the bibliography.

We shall now look at questions as they appear in two broad categories of classroom conversation – recitation and discussion. We shall first review the characteristics of each category by using actual classroom discourse, pointing out how questions function in that discourse. Then we propose an alternative approach to using questions.

# Questions During Recitation

Recitation refers here to all those episodes when teachers ask a series of questions, one after another, and students give answers in turn. Often the question-answer exchanges are short and the pace is quick, but the exchanges may also be longer and leisurely. Often the purpose is to quiz students or to check on homework, but the questioning may also serve any number of purposes: to drill and to review, to lead up to a conclusion, or to introduce a new topic. All such episodes are referred to here as recitation.

## A Characteristic Recitation

Recitation is an old, familiar, and very common event in classrooms. It is easily recognized. Here is one kind of recitation, conducted by a genial, skilled high school teacher of U.S. history. The topic is the success of Washington's revolutionary army, and the purpose is to review.

T: OK, so we've kind of covered leadership and some of the things that Washington brought with it. Why else did they win? Leadership is important, that's one.
S: France gave 'em help.
T: OK, so France giving aid is an example of what? France is an example of it, obviously.
S: Aid from allies.
T: Aid from allies, very good. Were there any other allies who gave aid to us?
S: Spain.
T: Spain. Now, when you say aid, can you define that?
S: Help.
T: Define "help." Spell it out for me.
S: Assistance.

T: Spell it out for me.
S: They taught the men how to fight the right way.
T: Who taught?
S: The allies.
T: Where? When?
S: In the battlefield.
T: In the battlefield?

One of the most striking features of this conversation is that the teacher's speech consists of questions. Accordingly, students speak only in answers, never in questions or comments, and only to the teacher, never to one another. Furthermore, the students speak briefly in responses lasting about one second.

The pace in this recitation is fast. The eight exchanges last little more than half a minute, some 4-5 seconds per exchange. In this style of recitation students have little time to think, explain, or explore their understanding. The pace is rapid, but the critical factor is that the teacher *speaks in questions.*

We might judge that *too many* questions are being asked at *too fast* a pace. But the exchanges take the form they do because the teacher speaks in question-form, not because of the number of questions he asks in a brief period of time. Here is another snippet of recitation, also selected from a U.S. history class.

T: What is nationalism? Is nationalism something you can grab and hold on to? Or what is it — is it tangible? Can you grab it? Or is it intangible?
S: Everybody has to work together to get it.
T: All right, but what is it? If you are nationalistic, then what is it, what do you have?
S: Pride in your country, pride.
T: Yeah, but what is it, basically. What is it?
S: It's a feeling.
T: All right, it's a feeling.

This episode lasts for the same amount of time as did the previous illustration, but fewer questions were asked at a slower pace with ex-

changes averaging 10 seconds each, compared to 5 seconds each. Otherwise the two recitations are identical. In both cases the teacher speaks in questions and the students in answers.

A more leisurely recitation appears on p. 23, conducted by a teacher with more than 30 years experience. In that recitation, the 10 exchanges average 20 seconds each, the answers 3 seconds. Although the three recitations vary in the number and pace of questions, in each case the teacher speaks in questions, with four natural consequences:

1. When persons are asked a question, they are socially constrained to respond to it; ordinarily it is difficult to avoid answering a question. This constraint is stronger in classroom situations than in everyday ones. Thus when they speak, students speak in *answers*.

2. When asked a question, a person usually responds with only that information specified by the question. Respondents address the question to satisfy the questioner, not to talk as they wish. Thus when they answer, students' responses are usually *brief*.

3. The questioner (teacher) enjoys the right to speak again following the response in order to make a comment, evaluate the answer, or pose another question. The student's turn will not be for asking a question or making a comment but for giving another answer. Thus when they have answered, students *await* their next turn for *answering* a further question.

4. Respondents always address their remarks to the questioner, not to someone else. Thus when they talk, students talk only to the *teacher*, not to one another.

A question-asking style of recitation serves several legitimate pedagogical functions, but it may produce negative effects on students' cognitive, affective, and expressive processes by increasing student passivity and dependence and by limiting student thought and response (Dillon, 1978, 1982a). As a result, a question-asking style of recitation will reveal only a limited part of the students' understanding. If one of the broad goals of recitation is to provide the teacher with an assessment of the students' knowledge of the subject matter so that the next learning activity may be planned, then a question-asking style of recitation may actually frustrate a primary goal of recitation itself.

## An Alternative Approach

Although there may be no way to avoid entirely the undesirable features of question-asking, there is an alternative approach that may enhance the goals of recitation. The use of questions in this alternative approach provides for systematic and extensive student participation, encourages student questions and comments, and gives the students time to think and to speak to one another. This approach will reveal the students' understanding of the subject and will enable the teacher to plan the next appropriate learning activity.

There are four phases to this approach: preparation, review, quiz, and evaluation. The details of these phases can be varied to suit the classroom situation. The illustration used here is a recitation covering an assigned reading and including a written quiz. A variation might be a recitation covering an outside activity and including small-group work on questions.

*Preparation.* Students are given an assignment such as reading a chapter in a textbook. Prior to class, each student prepares a list of five questions. For four of these questions, students write down the answers as they understand them. For the fifth question, however, the student does not yet have an answer. It is still perplexing or unsettled, or it is a question on which the student would like to hear the views of others. The questions and answers are written and numbered on a sheet of paper.

The teacher also prepares questions, just as is normally done in preparing a recitation lesson; but fewer questions are prepared and with greater care. On the whole, the questions are structured for relatively short answers rather than discursive "essay-type" answers.

The questions should not be posed as polarities. Polar questions (yes/no, true/false, either/or) tend to result in incomplete and sometimes false answers; a further question is then required. Factual questions of the 1492-type are necessary but they do not exhaust knowledge of the subject matter. Questions have to give range for expressing a fullness of ways of knowing the subject.

The teacher will need to prepare only 10 or fewer questions. Each student will already be asking at least five questions, and some students

will be asking some of the same questions that the teacher has prepared. The two major tasks for the teacher are to know what the question is and then to write it down. Both tasks can be exasperating.

To know the question, you have to separate it from a tangle of contending questions in your mind. The question must focus on only one issue and not involve several questions mixed together. You must make sure that the question is based on a true assumption. If you are not sure of the assumption, spell it out; if it is a false assumption, drop that question and look for another one. Make sure that the question can be answered truly; if it can't, drop it into the bag of useless trick questions and look for a genuine one.

After you know the question, write it out. Keep rewording it until satisfied that the written question expresses the mental question. Then read the written question aloud to someone else to find out whether it expresses to them what it expresses to you. Often you will discover that the written question, although it seems perfectly clear to you, expresses something else to another person.

For help with the details of formulating questions and putting them to respondents, consult *The Art of Asking Questions* by Payne (1951) or *Asking Questions* by Sudman and Bradburn (1982). Both these books are by experts in opinion polling and both are written in an easy, interesting style. They are full of practical suggestions and humorous examples of how simple questions go wrong. Payne gives a checklist of 100 points for asking the right question.

*Review.* The review phase begins with a student volunteer who asks one prepared question and calls on another volunteer to propose an answer. The first student maintains the floor to evaluate the response; then the student who gave the answer poses a question from his list. All are invited to contribute answers, comments, and related questions. The teacher reflects on the exchange, elaborates some point, or poses one of his own questions. This procedure easily develops a rhythm of its own and rarely takes on a "round-robin" or "let's-play-teacher" routine. At any of these junctures, the teacher freely enters in to point out missing elements in the question-answer exchange, to suggest other formulations or meanings of a question, to make applications of the content to past and future lessons, or to show how several preceding questions interrelate or cumulate.

After the teacher and students feel satisfied that a sufficient understanding of the subject matter has been established, students may be invited to pose their fifth question, the one for which the student does not have an answer. As before, the one who asks the question serves as evaluator and moderator of the exchange, with the teacher's support and intervention when appropriate. Ordinarily, some of these questions will already have surfaced in the earlier question-answer exchanges.

We can observe significant differences between this type of question-answer exchange and the traditional recitation style. In the latter, every question is asked by the teacher and every exchange is initiated by a teacher question and concluded by a teacher comment; students do nothing but answer. The exchange is tied to the next one by a further question posed immediately after the answer. In the alternative approach, the exchange is initiated by a student question and concluded by a student comment; the next exchange is initiated by a question from the student who had answered the previous question. Often another student will contribute a further answer or comment to sustain the exchange. The alternative approach systematically allocates turns so that various students speak and each student speaks in various roles.

The alternative approach enhances participation in other ways as well. Peers more readily engage in question-answer exchanges with each other than with superiors, and student responses to fellow students are longer and more complex than responses to the teacher (Boggs, 1972; Mishler, 1978). Furthermore, by breaking the chain that links final comment with subsequent question, the approach provides a conversational beat between exchanges, a beat entirely absent from teacher-student exchanges.

This alternative approach may appear so complicated that only older, more sophisticated students could possibly carry it off. But the functioning of this approach is a simple matter and is within the capabilities of children in the primary grades. The behaviors are already available in the repertoire of most school-age pupils; and the procedure carries with it its own sense and rhythm and discipline.

*Quiz.* After sufficient review the recitation moves, by signal of the teacher's judgment, toward a quiz. The quiz need not be a written and graded exam; rather it is an activity where the teacher poses questions

remaining to be raised. The quiz may be written or oral; graded or not; whole-group, small-group, or individual; in-class or out.

The teacher selects the quiz questions both from the list prepared for the day's recitation and from the questions raised during the review phase. The quiz takes its shape from the understandings that the students have just demonstrated, and it follows directly from the students' preparation and from their review.

When a question is being posed, the teacher might establish the expectation that the question will not be repeated. This disciplines the students to attend to the question. This discipline not only enhances the questioning-responding sequence, it also makes questions out to be something important — something to be attended to.

*Evaluation* is the assessment of the students' answers and, especially, the correction of the questions. Students evaluate their quiz answers, or at least participate in the evaluation. Then, studying the papers later, the teacher can give appropriate instruction in the technique of questioning. For instance, the teacher may make helpful suggestions about phrasing and structure; point out the underlying assumptions and various meanings; sketch alternative formulations; show how a certain question may constrain an answer and thus prevent consideration of other possible answers. This activity, when tailored to the individual student, serves to alert everyone to the importance of their questions. By this single instructional act we teach also that knowledge consists not of answers but of an answer in relation to a question. And we teach that student questions are essential to learning. In the bargain we are also at every step teaching subject matter.

By examining a student's question-answers the teacher can assess a student's grasp of the subject matter. Knowledge of the subject matter is reflected not in the answers but in the proposition that the answer and question form together (Collingwood, 1939, following Aristotle). The teacher comes to know a student's understanding by first seeing the questions that the student has derived from the subject matter.

Let us review the benefits of this alternative approach to recitation, bearing in mind its contrast with the traditional style.

It establishes a common ground of knowledge and understanding among students and leads to a subsequent learning activity.

It utilizes cooperative group discussion rather than a quiz-show atmosphere of pitting one contestant against another.

It encourages student questions by requiring that every student raise questions. Moreover, it gives students guided practice in constructing questions and in evaluating answers; and it also provides opportunity for the teacher to teach about questions while also teaching the subject matter.

It requires students to prepare for and give thought to the recitation. Much more thought is necessary to construct questions from a reading assignment, compared to treating it as a series of answers (to unasked questions) to be remembered for tomorrow.

It enhances student participation by permitting each student to respond in various roles. Moreover, it results in longer and more complex contributions than responses to teacher questions.

It reveals to the teacher the state of the students' knowledge. In the course of posing their questions, students reveal the assumptions and meanings the question has for them. In evaluating the answer proposed for their question, they reveal the context and implications of the knowledge represented by the question-answer proposition.

It fosters student initiative and autonomy by engaging the student in both the question and the answer, in both probing and evaluating, and in starting and directing an exchange.

Finally, this approach introduces into the classroom an expectation for the discipline of thought and discourse. Teacher control is displaced and complemented by the discipline of the group and the task at hand.

There are some disadvantages to this alternative approach. These include the labor involved in preparing for the recitation, the amount of time the recitation absorbs, and the extent of subject matter it cannot cover. On the other hand, the alternative approach promises to favor the goals of recitation, yielding greater benefits for more students, while controlling some of the less desirable features of traditional recitation.

# Questions During Discussion

Various classroom activities fall under the rubric of discussion. Unlike recitation, assessing the knowledge of subject matter is not the object of a discussion. Rather, knowledge or experience with the subject matter provides the basis for discussion. The object is to act on that knowledge, to do something with it; the group discusses the subject matter that it knows. In recitation, individuals recite the subject matter that they are coming to know.

Discussion requires an entirely different style of questioning behavior on the part of both teacher and students. While discussion follows naturally from such prior learning activities as study, demonstration, lecture, and recitation, the questioning techniques that are appropriate for discussion do not follow those for recitation. If they did follow, then the discussion would turn into a recitation.

## A Characteristic Discussion

Following is an illustration of one of several kinds of discussion styles. This example is selected for its contrast with the example used to illustrate recitation. As before, the teacher is skilled and the subject matter is history. The class is discussing Louis XIV's treatment of the Huguenot dissenters.

T: The treatment that Louis XIV gave to the Huguenots is anything but acceptable, and yet some people say that he was justified in his treatment of the Huguenots, in respect to the point that he was trying to take care of his country. Do you feel that Louis was justified in his treatment of the Huguenots?

S1: I think, you know, they had their religion and stuff like that. I don't think he should have gone as far as totally kicking them out of the country and giving them, like, social disgrace, you know, like taking their jobs away from them. If they wouldn't interfere with his way of ruling, and their religion, why should he interfere with them?

S2: He's partially right in what he did, but I don't feel he should've kicked them out, like she said. 'Cause who is he to say how they can . . . you know? Even though it's all Catholics, he gave 'em, like, religious freedom.

S3: I feel that he had hardly any justification at all. He wound up at the end, as Lydia said, having to almost be persuaded by all the people around him that were saying, "Well, look at the Huguenots." You know, "Why don't you do something about the Huguenots? We don't like the Huguenots." . . . It was one of the last places that he had to conquer, so he figured he'd just go out and then kill them. I think it was totally unfair.

T: OK, I can see where you're coming from, but I don't know if I can totally agree with that. Is there anyone who disagrees with what these people are saying? Marty?

Marty: I don't really disagree, but you know, we know the story, how everything worked out. . . . They wanted to get rid of the Huguenots. And just like that, you know, us here, we don't like somebody, like, you know, Italians and Nazis – sorta the same thing, something like that, in their eyes. I don't think he was justified himself.

S4: OK, in those days the church and state were like the same thing and everything, and so I think, well, like Louis – well, it isn't like today, when you can be a member of a country, just a member of a country. In those days, the church and the country meant the same thing, and when he saw people breaking away from the church, then he thought that they were breaking away from him. And he wanted to stop it. That was about the only thing he could do.

T: So you feel that he was justified in what he was doing, as far as he was concerned – he could justify it to himself.

S4: Yeah, he could justify it to himself. But then, before then they really didn't have a separation. So all he could see was an allegory. And he wanted to pull back on that.

T: All right, Marty raised an interesting point just a few seconds ago. He said that [continues about Communists and Nazis in Chicago]. It's getting away from France, but again it's speaking about the same idea – acceptance of groups that are going against the norms of your society. What's your opinion on groups of this type? Should they be allowed, should they be censored, should it be washed over, should there be guidelines, stipulations – should there be control like Louis XIV tried to control them, to be done away with?

S5: I think that they should be allowed to speak their opinion, because . . . But they should be allowed to speak their opinion, you don't have to listen.

S6: I think Marty was wrong, because. . . . Look what they did, like, back, I think, in the Fifties with the Communists and McCarthy, and then during World War II with the Japanese. So, it's still going on today.

T: Right, and the concentration camps which we have had inside the United States during World War II, to house Japanese-Americans because you couldn't trust the Japanese. All right, so he's totally disagreeing with what you had to say, Marty.

Marty: No, he brought up a good point. . . . But I mean, I don't think Thomas Jefferson and those guys who signed the Constitution would like Nazis around here. Especially after what they did. I think that's why. . .

S7: They come over here from another country for three months and they earn a ADC check! My parents have been working for 25-some-odd years, and they're not getting half the money that [ethnic epithet] are getting nowadays.

T: Yes, we know. . . .

All together these exchanges lasted seven minutes, in contrast to less than one minute for the same number of exchanges in the recitation example. The entire recitation could fit into the time it takes, on an average, for a single exchange in the discussion. There are not five questions during the entire hour of discussion, compared with questions every five seconds in the recitation. Here the student contributions last not one second, as in the recitation, but one minute. Here also the students speak to one another in addition to the teacher, referring to one another's ideas and asking questions.

One of the most striking features of this discussion is that the teacher does not speak at every turn but yields the floor to a second and third speaker. Nor does he ask a question at every turn. He poses one at the start to define the issue for discussion and another at midpoint to redirect it. There are good discussion teachers who speak at every turn and who speak at some length, but what is essential is that these teachers do not speak in questions when they speak.

Had this teacher begun to ask questions at the juncture where a student finished speaking, we can be sure that the discussion would soon have taken a form much like a traditional recitation. One student would answer, then wait; a second question would follow, another student would answer. Answers would become shorter and shorter as further questions were asked; students would cease speaking to one another but address only the teacher, speak only to the teacher's point, and speak only answers, never questions or comments. This occurs because the teacher is asking questions. Hence a guideline for teachers during discussion is not to ask questions. Instead, substitute alternatives to questions.

### To Question and Not to Question

In the next chapter I shall examine the alternatives to asking questions. Here I concentrate on the appropriate use of questions. A rule of thumb for using questions during discussion is *ask a question only when you are personally perplexed and you need the information in answer.* This rule can have a strict and lenient interpretation, and of course, like any good rule, it has exceptions.

The majority of questions, both in and out of classrooms, do not express perplexity. It is hard to ask a perplexity question, especially for teachers, because it exposes their ignorance or confusion. That is something that knowledgeable persons in positions of authority – like teachers – do not ordinarily like to do and are expected not to do.

Powerful social norms forbid these questions in classrooms. Students hesitate to ask perplexity questions for fear of exposing themselves among peers as being confused or ignorant, or as being the only one who does not understand (Dillon, 1981c). As a consequence, there is little inquiry on anyone's part, even when everyone in the room is asking and answering questions.

Yet during a discussion, perplexity, wonder, and uncertainty are precisely the conditions that lead to search and inquiry. Above all, the experience of perplexity sets the conditions for learning to occur. Expressing perplexity in a question directs the search for learning and disposes the mind to recognize and receive it when found. Moreover, asking perplexity questions constitutes a model of discussion behavior.

A strict interpretation of the rule of thumb is not to ask questions during discussion. But this is a hard line to follow. A lenient interpretation is to ask no more than three questions during the discussion. The first can identify the issue for discussion. A second question at a suitable midpoint may be used to clarify or redirect, and a third at the end to deal with matters left hanging or to anticipate the issue for a subsequent class. However, a single, well-formulated question is sufficient for an hour's discussion.It will take the teacher some time, thought, and labor to prepare this question for class.

The rule of thumb also has two sensible exceptions. First, the teacher may ask procedural questions ("Wasn't it John who brought up the idea of X a minute ago?"). Second, the teacher may ask questions to regain control of the class. When things get out of hand, the teacher reverts to questioning as means of social and verbal control. Such questions can elicit attention, direct effort, specify content, demand response, and constrain speech. But this is not a discussion technique. Questions are effective means for controlling student social and verbal behavior but not for enhancing student thought and discussion.

The reason for our rule of thumb is that *questions foil discussion*. They can prevent a discussion from starting up in the first place or, once started, they can reduce a discussion to nothing. The intent of the questioner may be to foster discussion, but the effect of the questions will be to forestall or frustrate it. To illustrate this point, follow closely the developments in two classroom conversations. One illustrates how questions *forestall* discussion, the other illustrates how questions *frustrate* an emergent discussion.

**Questions Forestall Discussion**

In the first illustration questions are intended to get a discussion going, but their effect is to keep it from getting started in the first place. The teacher is energetic, has more than 30 years of experience, and very much wants her students to discuss the Mayflower Compact. The students begin by treating it as a recitation, but she repeatedly directs them to treat it as a discussion. The students prove to be right after all, for the teacher is asking questions. Discussion never ensues because the questions naturally forestall it.

T: Let's go back to the Mayflower Compact. Now wait a minute; don't turn to your book. Let's just think something out here. What did those people agree to before they got off the boat? Now that was, you know, about 100 of them that were on the boat, more or less – there were more, actually. And women, of course, had no say-so, no say-so whatever. But what did those men on that boat agree to before they got off the boat?

S1: Self-government.

T: Yes, but I wish you'd explain that to me. You know, you're giving me a phrase that I've used over and over, and it's a phrase used in your book; when you don't put it into the context of a discussion, I don't really know what you're saying. I just want to know very simply, now, what did these people agree to on that boat, the Mayflower?

S2: [answer]

T: All right, did they have any restrictions on themselves?
S2: Yes.
T: What?
S2: [answer]
T: OK, did they have to own property?
S3: No.
T: Why did they decide among themselves, "We will go by what the majority here wants"? Why did they make it that simple? "And when we get off this boat and we settle on that land, we're going to make our own rules." Did they put any restrictions on themselves on that boat – any limitations?
S4: No.
T: Why do you suppose they didn't?
S4: [answer]
T: And were they all interested?
S5: Hm-mm.
T: Sure, they were interested. They were all very much concerned. Well, then, why do you suppose 150 years later, or 100 years later, they come up with the idea, "Oh, we gotta have property qualifications in order for you to have the right to vote"? Why do you suppose that restriction came into existence?
S4: [answer]
T: All right, I'm sure they did.

All the conditions are favorable for discussion. This teacher specifically directs the students to stay away from the book, and she encourages them to think something out. She tells one student not just to use a phrase from the book or previous lessons but to explain it by putting it into the context of a discussion. The topic is not merely information about the Mayflower Compact but the reasons behind it and the justifications for later deciding to change those reasons. Yet all of this is for nought. Discussion never emerges.

Despite the favorable conditions for discussion, the teacher's questions forestall it. Every time the teacher speaks she asks a question –

even discussion-type questions ("Why do you suppose . . . ?"). And every time the students speak they give answers. The questions have produced a recitation, a leisurely one this time, with exchanges lasting 20 seconds each and answers lasting 3 seconds each.

### Questions Frustrate Discussion

In the first illustration questions prevent a discussion from ever getting started. In this second illustration questions are used to keep a discussion going once it has started, but the effect is to turn the discussion away and gradually reduce it to nothing. The enthusiastic young teacher in this example is attempting to have a discussion on a reading from deTocqueville. The topic is interesting, with provocative applications to recent experiences in our country. The students also make repeated efforts to have a discussion, yet every time discussion emerges the teacher unwittingly beats it back down again by asking questions. The teacher intends his questions to foster discussion. Instead they frustrate it.

(The teacher is relating the early national period to recent national experience.)

T: For example, do you think during the Vietnam War people in this country were real patriotic and nationalistic?

S: No.

T: All right, if they weren't, then what was missing? How did people feel about the country?

S: Because they probably didn't want to go risk their lives for other countries.

T: All right, so how did they feel? How did that make them feel about the USA?

S: They didn't like it.

T: That's right, they didn't like it. All right.

(Jim enters his disagreement and goes on to relate this period to the earlier experiences of World War II and Korea. And just as Jim is building to his point after half a minute, the teacher breaks in again with his earlier question.)

Jim: They didn't have nothing against our country. . . . The only reasons they went against the country was, we went against them, because we said, you know, "Either go, or . . ."

T: But how did they feel about the government? How did those people feel about the government?

(In response, a girl says, "They were against it." The answer now reaffirmed, the teacher poses another question to get the discussion back to the topic of the early national period.)

T: All right, they were unhappy then, with the government. All right, how did people feel about the USA around 1800 – around 1803, 1804, 1805 – especially after we bought the Louisiana Territory? How did people feel about the USA then?

S: That the USA was making progress, that everything was; it seemed that things were going their way, and they were, like, unified and stuff.

T: When you say they were unified, what does that mean? How do people feel about one another, about their country, when they're unified?

S: Then nationalism is strong, because people all have a common goal, like to make the nation strong and stuff like that.

T: All right, they're all working towards the same thing.

(Once again Jim vainly begins to contribute toward a discussion, and once again the teacher ruins it by asking questions.)

Jim: I disagree. I thought that they were all kind of conceited that they thought America was the best.

T: All right, what was your opinion, or how did you feel about those two readings that you had? Or, excuse me, that one reading that you had – about where that guy, deTocqueville, talks to some people in America, and he says how they feel about their country. Do you think that was – well, what do you think about that? Do you think that was conceited, or do you think it was good that they felt that way? Do you think that people – people who talked that way – were they very nationalistic?

S: I thought it was good that they talked that way, because that's the kind of people you need to make a country strong.

(The teacher is just about to pose another question when he sees that Veronica wants to say something. She is going to try something interesting.)

T: Why do you think – oh, Veronica, go ahead.

Veronica: They just finished with the war, didn't they, with England? They were just getting the country going now.

T: All right, that's later on, OK.

Veronica: But don't you think they felt this way, they were a little resentful towards other countries?

(This frustrated exchange leads not to the class' discussion of Veronica's point but to a lecture by the teacher wherein he answers not Veronica's question but his own posed earlier. This answer now having been satisfactorily given, the teacher ends the lecture with yet another question to get the class back into discussing the topic – back once again to its recent applications, and back once again into a recitation.)

T: Well, I look at it like this. [continues for over a minute.] Do you think that people feel that way now? According to what those people said to deTocqueville, do you think people feel that way now about America?

S: Yeah.

T: Do you think there is nationalism in America today? And if not, or if so, tell me why.

S: No. I don't think so.

T: Why not?

S: Well, I don't know. It just seems like, way back then, that we were waiting just to get paid a compliment for our country. I think that's what he meant. Things like we're all high and mighty and everything.

T: All right, but what about nowadays? When you say that we're not nationalistic now, why aren't we nationalistic? Why don't we have pride in our country? Why aren't we patriotic now? In your mind.

S: I don't think people care.

T: You don't think people care. All right, apathy, that's a good reason.

(Now Marie is going to introduce something rich and exciting, a personal experience with emotional involvement in the topic. The class starts to react but nothing comes of it because the teacher chases the contribution away with questions.)

Marie: Well, this country is so much better and rich, you know? Like, my parents were born in [foreign country], and they came here in the Fifties, and they're still [foreign] citizens. And they won't become American citizens for anything because they don't – they *hate* this country.

Students: OOOH!

T: Quiet!

Marie: They don't know what they're doing, they don't know what they're talking about.

T: Why did your parents come here?

Marie: What?

T: Do you mind if I ask you why your parents came here?

Marie: For freedom – for money and freedom.

T: Is your family from [a certain political part of that nation]?

Marie: No.

T: No. OK. Eric?

(Now that Marie's contribution has been ignored and her participation ground down by the teacher's questions, Eric too ignores her contribution and talks about Nazis and ethnic rioting. Then the teacher ignores Eric, making a last try at questions before the hour's discussion will end.)

T: Well, I don't know, that's just what nationalism is. What is nationalism? Is nationalism something you can grab and hold on to? Or what is it – is it tangible, can you grab it, or is it intangible?

S: Everybody had to work together to get it.

T: All right, but what is it? If you are nationalistic, then what is it, what do you have?

S: Pride in your country, pride.

T: Yeah, but what is it, basically? What is it? Is it a . . .
S: It's a feeling.
T: All right, it's a feeling, OK.

Time and again the students and teacher try to keep the discussion going. Time and again the teacher's questions turn it away and gradually reduce discussion to nothing. In just the eight minutes we have followed this class there are 6 question-episodes intruding on a fitful discussion.

During this lesson the answers to the teacher's questions averaged 7 seconds. Responses to non-question *statements* by the teacher lasted 17 seconds. That suggests the usefulness of alternative, non-questioning techniques for enhancing discussion.

# Questions and Alternatives

In class discussions there are several alternatives to asking a question. In this chapter I shall review seven alternatives for stimulating student thought and response, for encouraging participation, and for teaching appropriate discussion behavior.

## Declarative Statement

A declarative statement is used in place of a question to express a thought that has occurred to the teacher in relation to what the student has just been saying. For example, Cindy is talking about the price of tea in China. The teacher thinks, "We get our tea from India, not China." The teacher's first impulse might be to ask: "How much tea do we import from China, Cindy?" or "Where do we get most of our tea from, Cindy?" The alternative technique is to declare the thought that comes to your mind, "We get our tea from India, not China." That is straightforward communication and appropriate discussion behavior. Cindy and others may then set about examining your thought instead of casting about to find it.

Sometimes teachers use a question to make a point. The point can be made directly by declaring it. In that way the student can immediately apprehend the point and respond to it, rather than trying to figure out the point of the question.

Contrary to what some people think, declarative statements do evoke responses. Moreover, the responses may be both longer and more complex than responses to questions (Boggs, 1972; Colby, 1961; Dillon, 1981a; Wood & Wood, 1983). For example, in a sample of 27 high

school discussion classes, half of all responses to statements, compared to only one-fourth of responses to questions, exhibited a level of thinking higher than the original statement/question (Dillon, 1982c). Even lower-level statements tended to get higher-level responses; two-thirds were at levels higher than the statement, compared to only one-third of responses to questions.

A question says, "Supply this bit of information and then stop." In contrast, statements convey more information with greater surprise value, and they are less clear about what kind of response to supply (beyond accept-reject) and when to stop responding (Colby, 1961). In that respect, a declarative statement is a useful alternative for enhancing student thought and response.

**Reflective Restatement**

A second alternative to asking a question is to state your understanding of what the student has just said, giving its sense in one economical and exact sentence. The effect of the restatement is to signal to the student and to others in the class that you are attentive to the statement and appreciate the contribution before reacting to it, e.g., before asking a question about it.

It is fruitless to ask, "What do you mean, Rodriguez?" because Rodriguez has just said what he means. The question gives no clue as to what you got from it and what you missed. All Rodriguez can do is repeat what he said or say it a bit differently. It is also fruitless to base a question on Rodriguez's meaning if you have missed it, for the ensuing discussion goes awry, and everyone has to backtrack and unravel the misconnections. A restatement informs Rodriguez of the extent of your understanding before anyone presumes to rely on it. The restatement makes public possession of a private meaning.

There are several ways to make a reflective restatement. The teacher might start off with "I get from what you say that . . ." or "So you think that . . ." An example appears in the earlier illustration of the class that was discussing Louis XIV and the Huguenots. A girl has just finished a long contribution. The teacher makes a summary statement; the girl agrees and goes on to elaborate.

T: So you feel that he was justified in what he was doing, as far as he was concerned – he could justify it to himself.

S: Yeah, he could justify it to himself. But then, before then [continues for 11 seconds].

The reflective restatement encourages students to say more with, perhaps, more substance. It confirms the speaker in his effort to contribute and it gives him the opportunity – invariably taken – to elaborate, properly inferring that what he thinks must matter some. The result is to encourage participation (both speaking and listening) and to facilitate discussion of real rather than imagined meanings.

**State of Mind**

On occasion you will wish to respond to what a student has been saying, but you do not seem to have anything very clear to say. You may be tempted to ask a question, but a question does not express your state of mind. The alternative is to express that state of mind.

There are many states of mind and various ways of expressing them, but the technique remains the same in all cases: describe in truth your state of mind, and none other. You might find yourself befuddled by what a student is saying, or you may just have missed the student's point. Declare that fact to the student: "I'm confused about what you're saying," or "I'm sorry, I'm not getting it." Then the speaker or other participants can help you get back into the swing of things.

A related state of mind involves muddling and pondering. In this state a person is wondering about something without yet being at the point of having a question to pose to someone else. You express that state of mind by using a mixed declarative-interrogative sentence: "I was just thinking about whether that would make any difference," or "I'm trying to remember what happens under those conditions." The phrasing resembles an indirect question in form but not in function because it directly describes your state of mind rather than indirectly proposing a question to someone else.

It is useless to tiptoe around with delicacies of phrase if they do not reflect your true state of mind. But it is even worse to march in with a

direct question to the student, based on what the student has not said or meant. You are in no condition to ask a question, so describe your state of mind instead.

**Invitation to Elaborate**

This alternative is simple. If you would like to hear more of the student's views, say: "I'd like to hear more of your views on that." Or specify the invitation: "I'd be interested in your definition/experience of that."

The invitation can also be phrased in a mixed declarative-imperative sentence: "Perhaps you could give some examples to help us understand," or "Maybe you can consider the opposite case now." Such delicacies of phrase are both more expressive and more inviting than "Define your terms!" or "Why do you think something like that?"

In contrast to the invitation to elaborate is the use of questions to probe or find out the feelings, experiences, and personal information of a student. A related use of probing questions is to draw out individual students who are not participating. Ordinarily such questions meet with limited and uninformative responses.

Following is an illustration of both of these uses of probing questions. A teacher in a child-care class begins to probe – quite gently – into how her students felt when their parents got divorced. Several of the students have previously related their experiences at some length. But Karen and others have not spoken during the hour. So the teacher begins to ask them questions.

T: How did *you* feel, Karen?
S: Oh, my parents got divorced when I was 4 or 5.
T: How did they tell you?
S: I don't remember.
T: Did you live with your mom then?
S: Yeah.
T: Did she remarry, or . . . ?
S: No.
Silence (4 seconds)

T: Do you have visits with your dad?
S: I live with my dad now.
T: Oh, now you do.
S: Yeah, I'm getting a taste of each [giggle].
Silence (8 seconds)
T: How about you, Kathy?
S: I don't remember.
T: You don't remember a thing. Makes it kind of nice. Cindy?
S: I've never seen my parents fight.
Silence (6 seconds)
T: Debbie, what about you?
S: No, not then. Now I do all the time!
T: Do you think parents hide [continues].

The questions have turned this previously rich and expressive discussion into a series of limited, empty exchanges. The answers are barely more than sufficient to the formal terms of the question; they consist of yes/no and silent refusal to elaborate; the individual waits until the teacher asks yet another question for yet another restrained answer, or until she directs a question to yet another unwilling respondent. The overall effect is to discourage participation and to model inappropriate discussion behavior.

An authority on adult group discussion cites five reasons against asking a question of someone who is not participating (Maier, 1963):

1. The question may threaten the individual.
2. The individual may have nothing worthwhile to contribute at the moment.
3. Others will wonder why this individual was picked out for special treatment.
4. The questioner's behavior suggests that spontaneous contributions are not in order.
5. The technique causes participants to be ready with a response in case called upon, rather than to think about the problem under discussion.

As our illustration suggests, these same considerations might apply in

classrooms as well, accounting for the counterproductive effect of questions put to draw out individuals.

Another type of probing question is the why-question. Although why-questions appear to be most appropriate for a discussion, they usually turn out to be imprecise and counterproductive. They discourage expression of thought.

Why-questions are imprecise because they do not specify the nature of the response. A variety of responses may count as an answer – a cause, reason, motive, justification, process, etc. The respondent does not know which of these is the "why" in question. Often several answers have to be proferred and discounted and several further questions put before the questioner is satisfied. Furthermore, the intent of most why-questions is not to seek any such answer at all. Even given amiable intent, a why-question functions to express such things as objections, disapproval, criticism; the response is to defend, withdraw, or attack (Benjamin, 1974). From long experience children have learned that there is, in fact, no meaningful answer to a why-question.

> "Tommy, why are you doing the dishes?"
> "Lynn, why didn't you do the dishes?"
> "Chris, why are you sitting there reading a book instead of doing the dishes?"

Tommy, Lynn, and Chris know that it is foolish to give *their reasons* (as if it were their reasons that were being called for). When we react to a student's contributions or behavior by means of a why-question, we risk communicating that what he is saying or doing is wrong or stupid.

Just such a case happened to me recently in a doctor's office. The doctor had told me the treatment for my condition and he began to write his notes. I asked him a question about the treatment because I was confused and I wanted to get it right. He looked up and said in a high pitch, "Why are you asking these questions?" I thought, I could tell this guy my reasons – ignorance, confusion, need, anxiety – but he doesn't want my reasons, he wants to scold me; so I waited, and he did. "You're not listening to me. I told you, blank-blank-blank." He repeated precisely the phrase that had confused me to begin with, and he



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left the room. I went to the nurse and got the right instructions. Because of the status differential, it is socially more permissible to ask a question of a nurse than of a doctor; and, as is well known, nurses respond more readily. Doctor-patient conversations are similar to teacher-student ones. The doctor asks the questions – simple, response-constraining ones – at a fast pace. The patient responds briefly; the patient asks very few questions; the doctor typically replies with a counterquestion. For a study of these conversations, see "Ask Me No Questions" (West, 1983).

Certainly, there are times when a sincere why-question occurs to a teacher, but the teacher must be sure that the student *receives* it as a sincere why-question. A teacher might consider using one of the alternatives to questions, because they convey better than a why-question can that the teacher is genuinely interested in learning the student's reasons for saying or thinking something.

### Speaker's Question

When a student is confused or is having difficulty making a point, ask that student to formulate a question. By having the speaker formulate a question, he discovers precisely the matter at issue and can get the help he needs. The technique consists not merely of words or gestures of encouragement but of providing the student with the time to formulate his question with thought and care.

By contrast, all goes awry when the teacher asks a series of "diagnostic" questions: "Do you mean this? Do you mean that? What are you trying to say?" Although intended to help the student deliver a stalled thought, these questions confuse the student even more. When faced with such questions, the student is required to disengage from the struggle to formulate his own thoughts and must search for an answer that is satisfactory to the teacher.

### Class Questions

When the class is confused or intrigued by a student's contribution, instead of asking a question, encourage students to raise questions about the issue under discussion. Peers more readily address questions

to one another than they do to superiors. And student responses to student questions are both longer and more complex than their responses to teacher questions (Boggs, 1972; Mishler, 1978). Soliciting student questions has the effect of encouraging inquiry and of promoting student-student interaction.

It is erroneous to think that students have no questions to ask. Every time that *conditions* have been provided for them (not by a mere pause, "Any questions? – No? OK, open your books"), a flood of intriguing student questions has poured forth (Finley, 1921; Helseth, 1926; Tamminen, 1979). When polled on the matter, 95% of preservice teachers stated that students indeed have questions but do not go on to ask them in class (Dillon, 1981c). Their general reason was that students are afraid to ask questions, largely because of their experience with negative reactions from the teacher (and from classmates). The lesson students draw from these negative reactions is "Don't ask questions."

One of the simplest ways to permit student questions is to stop asking questions yourself. It is a simple fact of language that a person who is cast in the role of respondent has no opportunity to ask a question, for at every turn he must answer one. That is especially true in classrooms, where students are clearly subordinates and the teacher always has the next turn at talk. In classroom discourse especially, students must have *prior permission* to ask a question and they must be *granted the turn* to ask it. Hence it is not enough for teachers just to have a benevolent attitude about student questions; they must provide conditions that permit and encourage students to ask questions.

Teachers are often wrong in their estimates of how many student questions they hear in class. For example, elementary teachers who were well disposed in theory to receive student questions estimated that they heard about 8 per lesson, whereas observers could count only one (Susskind, 1969). These same teachers estimated that they themselves asked about 15 questions per half-hour lesson, whereas observers counted 42. The real rates work out to more than one teacher question per minute and one question per pupil per month.

Related to class questions is the malpractice of counterquestioning, that is, a teacher replying to a student's question with a question of his own. In elementary grades, teachers have been found to reply with a

counterquestion to two of every three pupil questions (Mishler, 1975). A counterquestion has the force of rejecting student initiative, of refusing to the student the right to ask a question, of withholding cooperation in the exchange, and of wresting control of the interchange away from the student and back to the teacher. Now the student must answer the teacher's question. A counterquestion says: "I'm the one who asks the questions around here. You answer them."

**Deliberate Silence**

Deliberate silence is the most intriguing alternative to questions and one of the most effective. It is the simplest yet the hardest to practice. And it is the most difficult for everyone in class to get used to.

Say nothing at all. When a student pauses, falters, or has ostensibly finished speaking, maintain a deliberate, attentive, and appreciative silence lasting 3-5 seconds. Chances are that the speaker will resume or another student will enter in.

Deliberate silence is difficult for teachers because they feel impelled to speak out of a sense of responsibility, if not anxiety, for maintaining and directing classroom discourse. For many teachers a period of silence seems to be awkward, perhaps wasteful; and a silence of 3-5 seconds seems to be a void.

To use this technique a teacher must first practice timing. The teacher must learn how long three seconds actually last and then rehearse that duration between two sentences spoken aloud. At home one might use a stopwatch or metronome. In class it might help to nod or murmur while waiting for the student to resume. Students as well as teachers are used to no time at all between utterances. For years everyone has been conditioned to hearing the teacher start to speak within less than a second after the student's last syllable (Rowe, 1974). To be noticeable in a classroom, a silence has to be maintained for three seconds or so.

The need for silence in a discussion comes from the fact that time is needed for sustained expression of student thought. The act of expressing complex thought, personal opinions, interpretations, and the like requires more time than the act of expressing factual matters, recounting events, giving descriptions, and the like. Also, the very expression of

complex thought is characterized by pauses, false starts, and other hesitations that occur both more frequently and for longer periods than they do during the expression of factual knowledge. For example, in spontaneous speech both adults and children may pause twice as often (per word produced) while explaining or interpreting an event than while describing it (Goldman-Eisler, 1968; Levin et al., 1967). Therefore, if a teacher maintains a deliberate silence for 3-5 seconds when a student falters or pauses, he can expect to hear *not only more talk but also more complex thought.*

Teachers can be trained to observe silences, but naturally occurring teacher silences may be hard to find in most classrooms (Rowe, 1974). In one sample (Dillon, 1981a), only 5 out of 27 teachers observed silence (i.e., 3 seconds or more subsequent to a student's contribution). The average duration of these silences was 4 seconds. And the average duration of student response after the silence was 14 seconds.

Silence is a deliberate act by the teacher that enhances student thought and response, and encourages participation. Furthermore, it models one appropriate discussion behavior for students to imitate: due attentiveness and listening until the participant has succeeded in delivering an entire thought – not just a phrase or a sentence of two. To speak up at the first second's pause or on the first flawed phrase is merely to grab the floor and to dismiss the speaker; it is no less an interruption than when someone is speaking – indeed, someone *is* speaking.

In place of asking a question, the teacher can substitute a variety of alternative techniques. However, on occasion the teacher will use none of these alternatives but will properly *ask a question.*

By using these alternatives together, a teacher will have established an atmosphere in which the appearance – sudden and stark, as it were – of that lone question now gives form to perplexity and empowers joint inquiry. These are the educative fruits of disposing the class for the question we have prepared. To conceive the question has required of us thought; to formulate it, labor; and to pose it, tact. There is the art of questioning.

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